

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Amend claims 6 and 15.

Listing of Claims:

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1 1. **(original)** A voice detector comprising:
2 a plurality of Goertzel filters each operating at a different frequency
3 within a voice range, some of the filters operating at frequencies of control
4 signals and others of the filters operating at frequencies other than the
5 control signals' frequencies, each filter for receiving a signal to be
6 analyzed for presence of voice and detecting energy of the signal at the
7 operating frequency of the filter; and
8 a comparator connected to the filters, for comparing the energies
9 detected by the filters against thresholds and responsive to at least three
10 of the filters simultaneously detecting energy above a noise threshold and
11 below a control signal threshold by indicating that the signal comprises
12 voice.

1 2. **(original)** The voice detector of claim 1 wherein:
2 the comparator is responsive to a filter of the filters operating at a
3 frequency of a control signal and detecting energy above a control signal
4 threshold by indicating that the analyzed signal comprises the control
5 signal.

1 3. **(original)** The voice detector of claim 1 wherein:
2 the comparator is responsive to one of the filters operating at a
3 frequency of a single-frequency control signal detecting energy above a
4 first control signal threshold by indicating that the analyzed signal

5 comprises the single-frequency control signal, and is responsive to two of
6 the filters operating at frequencies of a dual-frequency control signal each
7 detecting energy above a second control signal threshold different from
8 the first control signal threshold by indicating that the analyzed signal
9 comprises the dual-frequency control signal.

1 4. **(original)** The voice detector of claim 1 further comprising:
2 a detector that detects total energy of the signal to be analyzed;
3 wherein
4 the comparator is responsive to the total detected energy being
5 below a noise threshold by indicating that the analyzed signal comprises
6 noise or silence.

1 5. **(original)** The voice detector of claim 4 wherein:
2 the comparator compares the energies detected by the filters
3 against the thresholds by comparing ratios of the energies detected by
4 individual ones of the filters and the total detected energy against the
5 thresholds.

1 6. **(currently amended)** A call classifier comprising:
2 a plurality of Goertzel filters each operating at a different frequency
3 within a voice range, some of the filters operating at frequencies of control
4 signals and others of the filters operating at frequencies other than the
5 control signals frequencies, each filter for receiving windows of a signal to
6 be analyzed for presence of voice and detecting energy of the signal in the
7 windows at the operating frequency of the filter;
8 a detector that detects in the windows total energy of the signal to
9 be analyzed; and
10 a comparator connected to the filters, for comparing ratios of the
11 energies detected by the individual filters in a window and the total

12 detected energy in the window against thresholds, responsive to the total
13 detected energy in the widow not exceeding a noise threshold by
14 indicating that the analyzed signal comprises silence or noise, responsive
15 to one of the filters operating at a frequency of a single-frequency control
16 signal detecting in the window energy whose ratio exceeds a first control
17 signal threshold by indicating that the analyzed signal comprises said
18 single-frequency control signal, responsive to two of the filters operating at
19 frequencies of a dual-frequency control signal each detecting in the
20 window energy whose ratio exceeds a second control signal threshold by
21 indicating that the analyzed signal comprises said dual-frequency control
22 signal, and responsive to at least three of the filters each detecting in the
23 window energy whose ratio exceeds a voice threshold by indicating that
24 the signal comprises voice.

1 7. **(original)** The call classifier of claim 6 wherein:
2 each window represents a different segment of the signal to be
3 analyzed.

1 8. **(original)** The call classifier of claim 6 wherein:
2 each window represents a different tapered segment of the signal
3 to be analyzed.

1 9. **(original)** The call classifier of claim 6 wherein:
2 each window represents a different segment of the signal to be
3 analyzed and wherein consecutive said windows partly overlap each
4 other.

1 10. **(original)** A method of detecting voice in a signal to be
2 analyzed for presence of voice, comprising:
3 detecting energy of the signal at operating frequencies of a plurality

4 of Goertzel filters each operating at a different frequency within a voice
5 range with some of the filters operating at frequencies of control signals
6 and others of the filters operating at frequencies other than the control
7 signals' frequencies;
8 comparing the energies detected by the filters against thresholds;
9 and
10 in response to at least three of the filters simultaneously detecting
11 energy above a noise threshold and below a control signal threshold,
12 indicating that the signal comprises voice.

1 11. **(original)** The method of claim 10 further comprising:
2 in response to a filter of the filters operating at a frequency of a
3 control signal detecting energy above a control signal threshold, indicating
4 that the analyzed signal comprises the control signal.

1 12. **(original)** The method of claim 10 further comprising:
2 in response to one of the filters operating at a frequency of a single-
3 frequency control signal detecting energy above a first control signal
4 threshold, indicating that the analyzed signal comprises the single-
5 frequency control signal; and
6 in response to two of the filters operating at frequencies of a dual-
7 frequency control signal each detecting energy above a second control
8 signal threshold different from the first control signal threshold, indicating
9 that the analyzed signal comprises the dual-frequency control signal.

1 13. **(original)** The method of claim 10 further comprising:
2 detecting total energy of the signal to be analyzed;
3 comparing the total detected energy against a noise threshold; and
4 in response to total detected energy being below the noise
5 threshold, indicating that the analyzed signal comprises noise or silence.

1 14. **(original)** The method of claim 13 wherein:
2 comparing the energies detected by the filters comprises
3 comparing ratios of the energies detected by individual ones of the
4 filters and the total detected energy against the thresholds.

1 15. **(currently amended)** A method of detecting voice in a signal
2 to be analyzed for presence of voice, comprising:
3 detecting energy of the signal at operating frequencies of a plurality
4 of Goertzel filters each operating at a different frequency within a voice
5 range, some of the filters operating at frequencies of control signals and
6 others of the filters operating at frequencies other than the control signals
7 frequencies, wherein each filter receives windows of the signal to be
8 analyzed for presence of voice and detects energy of the signal in the
9 windows at the operating frequency of the filter;
10 detecting in the windows total energy of the signal to be analyzed;
11 comparing ratios of the energies detected by the individual filters in
12 a window and the total detected energy in the window against thresholds;
13 in response to the total detected energy in the window not exceeding
14 a noise threshold, indicating that the analyzed signal comprises silence or
15 noise;
16 in response to one of the filters operating at a frequency of a single-
17 frequency control signal detecting in the window energy whose ratio
18 exceeds a first control signal threshold, indicating that the analyzed signal
19 comprises said single-frequency control signal;
20 in response to two of the filters operating at frequencies of a dual-
21 frequency control signal each detecting in the window energy whose ratio
22 exceeds a second control signal threshold, indicating that the analyzed
23 signal comprises said dual-frequency control signal; and
24 in response to at least three of the filters each detecting in the

25 window energy whose ratio exceeds a voice threshold, indicating that the
26 signal comprises voice.

1 16. **(original)** The method of claim 15 wherein:
2 each window represents a different segment of the signal to be
3 analyzed.

1 17. **(original)** The method of claim 15 wherein:
2 each window represents a different tapered segment of the signal
3 to be analyzed.

1 18. **(original)** The method of claim 15 wherein:
2 each window represents a different segment of the signal to be
3 analyzed and wherein consecutive said windows partly overlap each
4 other.